GOAL SETTING STRATEGIES, LOCUS OF CONTROL BELIEFS, AND PERSONALITY CHARACTERISTICS OF NCAA DIVISION IA SWIMMERS

Joel T. Stout, B.S.

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APPROVED:

Scott Martin, Major Professor and Chair
Allen Jackson, Committee Member
John Collins, Committee Member
James R. Morrow Jr., Chair of the Department of Kinesiology, Health Promotion and Recreation
Jean Keller, Dean of the College of Education
C. Neal Tate, Dean of the Robert B. Toulouse School of Graduate Studies

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The purpose of the present study was to examine goal setting strategies, locus of control beliefs and personality characteristics of swimmers (108 males and 111 females) from top twenty 1999 NCAA Division IA programs. Three questionnaires were completed: (a) Goal Setting in Sport Questionnaire (GSISQ: Weinberg, Burton, Yukelson, & Weigand, 1993), (b) the Internal, Powerful Others, Chance Scale (IPC: Levenson, 1973), and (c) the compliance subscale and six conscientiousness subscales from the NEO Personality Inventory-Revised (NEO PI-R: Costa & McCrae, 1985). Descriptive statistics from the GSISQ indicated that most of the swimmers set goals to improve overall performance (51%) and set moderately difficult goals (58%). Results associated with the IPC scale revealed that most of the swimmers attributed their sport performance to internal factors. Results pertaining to the NEO-PI-R indicated that most swimmers were highly conscientious, disciplined, purposeful, and determined.

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Goal Setting Strategies, Locus of Control Beliefs, and Personality Characteristics of NCAA Division IA Swimmers

Over the last twenty years goal setting has been an area of interest to sport psychology practitioners (Locke & Latham, 1990). Most of the current research on goal setting can be traced back to Locke's (1968) seminal article in which he proposed a model of motivation based upon conscious goals and intentions. Locke's article helped establish goal setting as one the most popular motivational techniques for enhancing performance and productivity (Weinberg, Bruya, Garland, & Jackson, 1990).

The basic assumption of Locke's goal setting theory is that task performance is regulated directly by goals that an athlete sets to consciously achieve (Locke & Latham, 1985). Goals are considered immediate regulators of human action (Weinberg, 1994). In addition, goal setting is an aspect of motivation aimed at focusing the athlete's behavior and providing a means to monitor progress or goal attainment (Burton, 1992).

Locke (1991) defines a difficult goal, as a goal set at a level at which no more than 10% of participants can achieve. According to Locke and Latham (1985) unrealistic goals that are "difficult" should be avoided because they can result in continued failure, decreased motivation, and subsequent diminished performance. In a recent study, elite athletes were found to effectively set higher, more challenging, yet realistic, goals than their less skilled counterparts (Weinberg, Burton, Yukelson, & Weigand, 1993).

Another important aspect of setting goals is having knowledge of the proximity (short-term or long-term) in which they will occur (Locke & Latham, 1985). Researchers have suggested that short-term goals may yield more substantial and long-lasting self-

regulated behavioral changes (Bandura, 1982; Carver & Scheir, 1982). The short-term goals provide immediate incentives and feedback about athletes' performance. Long-term goals are, most likely, too far removed in time to maintain the athlete's effort or attention. Combined short and long-term goals seem to yield the greatest performance improvements as compared to using long-term goals and/or short-term goals alone (Tennenbaum, Pinchas, Elbaz, Bar-Eli, & Weinberg, 1991). Athletes who know the proximity of their goals can recognize whether the goal is difficult and realistic (Bandura, 1982; Carver & Scheir, 1982; Locke & Latham, 1985; Tennenbaum et al., 1991). Thus, there seems to be an increased likelihood of goal achievement once the swimmers have defined their goal.

Other important issues exist that influence the athlete's goal setting strategies such as gender and athletic maturity. Generally, females have been found to set more performance goals than males, while males usually set more outcome goals than females (Weinberg et al., 1993). In addition, females have been found to use goal setting more frequently and find it more effective than males (Weinberg et al., 1993). Weinberg and colleagues (e.g., Burton, Weinberg, Yukelson, & Weingand, 1998; Weinberg, 1994; Weinberg, Burke, Jackson, 1997) found that athletes, regardless of gender or ability level, chose moderately difficult goals over easy and difficult goals. Starters on a sport team have been found to use goal setting more frequently and effectively than reserves (Weinberg et al., 1993). Further, those athletes who consistently perform at a higher ability level use goal setting more frequently and effectively than lower ability level

athletes (Weinberg et al., 1993). The athletes who have more control over their goals consistently perform more effectively (Weinberg, 1994).

Challenging yet realistic goals assigned by a coach for athletes are effective only if the athletes accept them as their own (Weinberg, 1994). Complete acceptance can only occur when the athlete knows the goal specificity, goal difficulty, goal proximity, and perceives the goal to be realistic (Weinberg, 1994). Weinberg argues that the athlete is the only one who has the capability of making internal comparisons and setting personal standards against which to evaluate the specificity and difficulty of the goal (Weinberg, 1994). Therefore, an athlete's input is necessary in the selection and method of achievement of all aspects of goal setting (specificity, difficulty, proximity, frequency, effectiveness, effort, commitment, and orientation).

Although a coach may lack the knowledge of the inner comparison processes and standards of the athlete, a coach will most likely have knowledge about skill development. This knowledge of skill development may help the athlete set realistic goals. For example, using this knowledge the coach could help define training that is necessary to achieve the goal. A supportive coach may be able to assist athletes in setting effective goals that encourage effort, commitment, and accountability.

One of the problems that exist concerning goal-setting research in the area of applied sport psychology is that only a small number of articles have been published that use athletic populations (Burton et al., 1998). Most of the research related to sport and competition has been conducted in laboratory settings or used sport-related tasks with nonathlete or recreational sport populations (Burton et al., 1998). Burton and colleagues

indicated that little is known about whether athletes have truly learned to effectively set and implement goals. Subsequently, certain questions still remain related to goal setting strategies and practices of elite and college level athletes. For example, how frequently do these athletes set goals? What types of goal setting strategies do athletes employ? How effective are the goals and goal setting strategies for enhancing athletic development and performance improvement? Do goal-setting practices differ for athletes with differential levels of perceived goal setting effectiveness and success?

Many of these questions were recently addressed by Weinberg and colleagues (see Burton et al., 1998; Weinberg et al., 1993; Weinberg, et al., 1997). Their findings revealed that coaches and athletes are often inconsistent with setting goals and goal setting strategies because of lack of use. Athletes that frequently set goals were more likely to be effective in achieving their goals. Moreover, many of the athletes and coaches placed a higher priority on product-related goals than on process-related goals. Although, groups could be best discriminated by the effectiveness of process-related but not product-related goals.

Other questions concerning goal-setting research relates to the influence of locus of control and personality characteristics (e.g., conscientiousness and neuroticism). Internal locus of control is defined as the product of the individuals own actions, being predictable, and within the individual's control whereas external locus of control is characterized as the belief that the resulting outcomes occur because of luck, chance, fate, or powerful others (Rotter, 1966). Past research indicates that there is a relationship between the belief in internal versus external locus of control and the need for

achievement (Atkinson, 1958; Goodnow & Pettigrew, 1955; Goodnow & Postman, 1955; McClelland, Atkinson, Clark, & Lowell, 1953). People who have a high need for achievement are more likely to believe in their own ability or skill. However, this relationship is probably not linear, since a person high on achievement motivation might not be equally high on a belief in internal control of outcomes. A person low in need for achievement may still believe that his or her own behavior determines the kinds of outcomes obtained (Rotter, 1966).

Lynn, Phelan, and Kiker (1969) administered Rotter's Internal-External (I-E) Scale to thirty basketball players (team sport), thirty gymnasts (individual sport), and thirty non-sport participants. The individuals who participated on the team sport (i.e., basketball) scored significantly higher on internal locus of control than did members of the individual sport group (i.e., gymnastics) and the non-sport participant group. Finn and Straub (1977) used the scale to study highly skilled female softball players from the Netherlands and the United States. Finn and Straub found that the Dutch players were more external than their American counterparts. American pitchers and catchers were significantly more internal than the Dutch battery-mates and than the Dutch infielders and outfielders. Hall, Church, and Stone (1980) used the I-E Scale with twenty nationally ranked weight lifters and found that firstborn lifters were more external than later borns. However, all were basically internal compared to the norms reported by Rotter. Hall and colleagues used two groups of thirty-two subjects to take part in a motor task based on whether they were internal or external in their view of locus of control. Results showed

that externally-oriented individuals were significantly higher trait anxious and made less internal attributions for failure than internally-oriented persons.

Internal and external control beliefs seem to affect individual's perceptions of outcomes. Research related to locus of control and goal setting has yielded a positive relationship between difficulty of the goal and performance for those with an internal orientation (e.g., Locke & Latham, 1990). A linear (inverse) relationship seems to exist between perceived degree of goal difficulty and performance (Locke, Chah, Harrison, & Lustgarten, 1989; Locke, Frederick, Buckner, & Bobko, 1984). Locke and colleagues (1984, 1989) attributed this to difficult goals requiring greater effort and persistence than easy ones.

Other studies related to goal setting and locus of control have yielded results indicating internally-oriented persons perform better than externally oriented persons (Latham & Yukl, 1976; Locke & Latham, 1990), especially on difficult tasks. Internally-oriented people view their performance as a function of their skill level and effort whereas externally-oriented persons view factors such as luck, chance, and fate as determinants of the performance (Locke & Latham, 1990). With increasingly difficult tasks, the internally-oriented person believes that increased effort and improved skills are required to achieve the goal (Locke & Latham, 1990). On the contrary, externally-oriented people rely more heavily on others and chance when the task becomes more difficult. Von Bergen (1995) found that externally-oriented people performed in a U-shaped manner. That is to say, the externally-oriented people obtained the poorest performance when moderately difficult goals were assigned. Conversely, internally-

oriented persons performed in an inverted U-shaped fashion. These individuals obtained the best performances with moderately difficult goals. Therefore, a curvilinear relationship moderated the relationship between goal setting and performance when differences in locus of control were examined (Von Bergen, 1995).

Individual differences, goal setting, and locus of control research is limited, especially as it relates to sport performance. One study, Furnham (1990), examined the personality characteristics within and between sports. Furnham found that intrinsic motivations like excitement of the sport, personal accomplishment, improving one's skills were rated higher than extrinsic factors like pleasing others, winning rewards, and winning the game. Arousal and factors such as extraversion, impulsivity and sensation-seeking were associated with sport preference (Furnham, 1990).

Factors such as personality and adjustment, past experience, availability of psychological support and counseling, social pressures, persistence, confidence and concentration, mental preparation, and motivation determine success and excellence in a sport. Over the years, it has been well-documented that top performers tend to be emotionally-stable (e.g., dominant, tough-minded, self-assured, self-confident, and have the high capacity to endure pressures). For example, Garland and Barry (1990) examined the relationship between athletic performance and self-confidence. Intuitively, increased self-confidence allows for athletes to exhibit greater selectivity, intensity, and persistence in sport, resulting in maximum performance. These and other findings (e.g., Carron, 1984; Cattell, Eber, & Tatsuoka, 1982) indicate that a person with a high level of self-confidence will most likely possess a high level of emotional stability, persistence, self-

assuredness, and tough-mindedness when engaging in stressful activities. Thus, support exists for an association between self-confidence (emotional stability, persistence, self-assuredness, and tough-mindedness) and emotional arousal (emotional stability) with athletic performance.

Harackiewicz and Elliot (1993) discussed how individuals who are achievement oriented are motivated to pursue challenging goals and attain high levels of performance in competitive situations. Achievement orientated individuals were found to actively seek activities that afford self-evaluation and feedback and they value competence (Harackiewicz & Elliot, 1993). Conversely, the authors showed that people low in achievement orientation are not oriented toward competence. These individuals avoid assessment and competition whenever possible, and are likely to experience performance anxiety. Use of mastery goals that emphasize personal improvement and skill development may increase the salience of competence in threatening situations (Harackiewicz & Elliot, 1993).

Costa, McCrae, and Dye (1991) found that competence is most highly associated with self-esteem and internal locus of control. Costa and McCrae (1992) indicated that "probably few people become great musicians or athletes without a reasonably high level of this trait" (p. 16). Individuals that score high on competence are more likely to develop effective plans, which allows them to achieve their goals. These individuals usually have the will to achieve, and are self-confident, self-disciplined, resourceful, efficient, thorough, methodical, ambitious, persistent, and energetic (Costa & McCrae, 1992).

For the past twenty years, sport and exercise psychology researchers have investigated setting goals as a motivational strategy for influencing performance (Locke & Latham, 1990; Weinberg, 1994). During this period Weinberg and Locke debated the goal-performance relationship in sport and exercise settings. In general, the findings have not been as consistently strong and positive as they have been in the industrial/organizational literature. One reason is that individual differences have been virtually ignored when studying goal setting in sport and exercise environments (Weinberg, 1997).

During the last ten years, locus of control and goal setting has become an interest of a few researchers (Locke & Latham, 1990; Von Bergen, 1995). Von Bergen investigated the effects of goal setting and locus of control. Von Bergen noted that there has been a growing interest related to the personality characteristics, locus of control beliefs, and goal setting strategies of athletes. However, he did not investigate the relationship between personality, locus of control beliefs and goal setting strategies.

Most sport and exercise psychology practitioners are interested in understanding why individuals select different goals and exercise regimes. In addition, most practitioners are interested in learning why performance and effort vary among the individuals who are involved in these activities. Similarly, a majority of coaches and athletes are interested in determining how individual differences influence performance (Widmeyer & Ducharme, 1997). The explanations for the individual differences could influence coaching styles and the training regimens of athletes. These explanations could

lead to a better understanding of how athletes set goals and what goal orientations they have.

Unfortunately, there has been little research on the goal setting practices of athletic populations, especially at the elite or college levels (Burton et al., 1998). Subsequently, fewer articles exist concerning the role of individual differences with respect to goal setting and locus of control (Von Bergen, 1995). The research that has been conducted (Locke & Latham, 1990; Martin & Murberger, 1994; Von Bergen, 1995) has been inconclusive. Therefore, the primary purpose of the present study was to explore top performing collegiate swimmers' goal setting (i.e., frequency, effectiveness, commitment, effort, and preferences), locus of control beliefs (i.e., internal, powerful others, and chance) and personality characteristics (e.g., compliance and conscientiousness). The secondary purpose of the study was to determine if any significant differences exist as a function of NCAA qualification and gender. The goal of the study was to develop a better understanding of successful NCAA Division IA swimmers across the variables (goal setting strategies, locus of control, and personality characteristics).

Methodology

Participants

The participants of the study were 219 (108 males and 111 females) swimmers from seven of the top twenty NCAA Division IA swim programs. The swimmers ranged from 18 to 24 years of age and were swimming approximately 20 hours a week (i.e., as limited by the NCAA regulations). All swimmers volunteered to participate in the study.

Questionnaires

The Goal Setting In Sport Questionnaire (GSISQ: Weinberg, 1997) was utilized to better understand the swimmers' goal setting practices and strategies (see Appendix A). The 57-item GSISQ provides insight into how often athletes set various goals and how effective the goals are for improving performance. Specifically, 52 of the questions are answered on a 9-point Likert scale (i.e., 1=not often at all, 9=very often). Of these 52 questions, 25 relate to goal frequency, 24 relate to goal effectiveness, and 3 relate to goal commitment and effort. The remaining 5 include 2 rank ordered and 3 open-ended questions that request the respondent to indicate their goal setting preferences. Burton and colleagues (1998) conducted separate factor analyses on the frequency and effectiveness scales which produced virtually identical factors for each (i.e., Process-related goals, Product-related goals, and Goal implementation strategy).

The Internal, Powerful others, and Chance (IPC: Levenson, 1973) scale (Appendix B) was also used to measure whether the swimmers' view the world as unordered (i.e., chance), controlled by powerful others, or within their control. The IPC scale requests respondents to indicate the extent to which they agree or disagree on a 7-point Likert scale (i.e., 1=strongly disagree to 7=strongly agree). Coefficient alpha were .67 for the internal scale, .82 for the power other scale, and .79 for the chance scale (Levenson, 1973). Test-retest reliabilities for a one-week and seven-week period were both in the .60 to .79 range (Levenson, 1973).

Finally, selected scales from the NEO-Personality Inventory-Revised (NEO-PIR) Form S (Appendix C), developed by Costa and McCrae (1985), was used to measure the

swimmers' personality characteristics. The NEO-PIR or NEO “Big Five” is based on the five broad dimensions of personality (i.e., neuroticism, extraversion, openness, agreeableness, and conscientiousness) and represents a comprehensive compilation of a large number of research studies that relied on factor analysis and rational scale construction (Costa & McCrae, 1985). When completing all scales on the NEO-PI-R, the inventory gives insight into what makes the person unique in terms of their thinking, their feelings, and how they interact with others. Coefficients ranged from .75 to .83 and 3-year test-retest estimate ranged from .63 to .83 (Costa & McCrae, 1992).

There are six facets that make up each of the dimensions. "Neuroticism" is made up of anxiety, anger, hostility, depression, self-consciousness, and impulsiveness. "Extraversion" consists of warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions. The "openness" dimension consists of fantasy, aesthetics, feelings, actions, ideas, and values. "Agreeableness" is composed of trust, straightforwardness, altruism, compliance, modesty, and tendermindedness. Finally, the "conscientiousness" dimension, which was at one time called "character", contains subscales related to competence, order, dutifulness, achievement, striving, self-discipline, and deliberation.

For the purpose of the present study one facet of agreeableness, compliance, and the six facets of conscientiousness were used because they have been reported to be related to goal setting and goal achievement (Costa & McCrae, 1995, p. 44). The questions on the selected subscales of the NEO-PIR Inventory are answered on a 5-point Likert-scale (i.e., 1=not at all, to 5=all the time).

Procedures

The University of North Texas Human Subjects Committee was provided with appropriate information and documentation for an ethical review of the proposed study. The Human Subjects Committee reviewed the protocol and issued a Letter of Approval for commencement of the research.

Coaches were contacted via telephone and then by letter (Appendix D). They were asked to participate in the study and recruit athletes from their programs. Approximately, two weeks following the letter, the coaches were contacted via telephone to confirm a date, time, and place to have their team complete the questionnaires.

A pilot study was performed using a sample of 12 high school swimmers ranging from 14 to 17 years of age to determine the length of time necessary to complete the questionnaires and to examine the instruments' stability over time. The questionnaires were administered to the high school swimmers twice over a three-month period. The test-retest coefficients for the GSISQ, IPC, and the selected scales of the NEO-PI-R ranged from .52 to .88. Thus, it appears that the questionnaires have marginal stability over time.

The coaches of four of the seven teams administered the questionnaires because the researcher could not travel to the universities. Written instructions (Appendix E) explaining the participant’s requirements and an explanation of the research were given to each coach. The administrator read the instructions for completion of the inventories and informed athletes that participation was voluntary. Assurance that all data would be kept strictly confidential was given. Informed consent was then received prior to

completion of the questionnaires. Upon completion of the informed consent sheet (Appendix F), the swimmers were asked to complete the following: (a) GSISQ, (b) IPC, and (c) the 7 scales from the NEO-PIR. The test administrator answered any questions and requested that the participants answer each item as honestly as possible. The packet of questionnaires took approximately 30 minutes to complete. Upon completion the swimmers were debriefed about the study and given information on how to contact the investigators for information concerning the results.

Data Analysis

Cronbach alpha reliabilities were used to estimate the different instruments' measurement qualities. Descriptive statistics were evaluated to understand the motivational factor rankings and goal difficulty preferences. Separate multivariate analyses of variance (MANOVA) were performed using the GSISQ Frequency and Effectiveness subscales, IPC scales, and the selected subscales of the NEO-PI-R to determine whether any differences exist as a function of gender and NCAA qualification.

Results

Reliability

Table 1 shows the internal-consistency reliabilities for the GSISQ, IPC, and the selected scales of the NEO-PI-R. The internal consistency reliabilities range from .50 to .95. The internal consistencies for a few of the subscales were lower than the recommended .60 alpha level suggested for use in research. Therefore, these subscales may need further modification.

Goal Setting Strategies and Practices

Goal Setting Frequency. The descriptive statistics for goal setting frequency are provided in Table 2. Overall, the means and standard deviations showed that male and female qualifiers and non-qualifiers frequently set competition goals (M=7.75, SD=1.33), overall performance goals (M=7.40, SD=1.35), long-term goals to improve sport performance (M=7.32, SD=1.76), physical conditioning goals (M=7.18, SD=1.54), and performance goals (M=6.90, SD=1.74).

In order to examine differences in goal-setting practices as a function of gender and NCAA qualification mean scores for the three goal frequency subscales of the GSISQ (Process-related frequency, Product-related frequency, and Frequency of goal implementation strategy usage) were calculated and used as dependent variables. Results of a 2 (Gender) x 2 (NCAA Qualification) MANOVA revealed no significant difference on the goal frequency subscales for gender or NCAA qualification. The discriptive statistics representing the dependent variables for gender and NCAA qualification are provided in Table 3.

Goal Setting Effectiveness. Table 4 represents the means and standard deviations of how effective various goal-setting strategies had been for performance success. Overall, the descriptive statistics revealed that the swimmers' believed physical conditioning (M=7.11, SD=1.59), competition (M=6.86, SD=1.55), skills and technique (M=6.75, SD=1.67), and long-term goals (M=6.73, SD=1.84) were most effective in helping develop as an athlete. In addition, non-sport goals (M=6.63, SD=1.86) were thought to be most effective for improving their quality of life.

In order to examine differences in goal-setting practices as a function of gender and NCAA qualification mean scores for the three goal effectiveness subscales of the GSISQ (Process-related effectiveness, Product-related effectiveness, and Effectiveness of goal implementation strategy usage) were calculated and used as dependent. Results of a 2 (Gender) x 2 (NCAA Qualification) MANOVA revealed no significant difference on the goal effectiveness subscales for gender or NCAA qualification. Table 5 depicts the means and standard deviations for gender and NCAA Qualification for the dependent variables.

Commitment and Effort. Descriptive statistics pertaining to commitment and effort are presented in Table 6. Overall, the swimmers had a strong belief that a commitment to a specific goal affected their ability to successfully reach that goal (M=7.01, SD=1.78). In addition, most give greater effort for difficult goals (M=7.02, SD=1.97) than for easy goals (M=5.87, SD=2.03).

Motivational Factors. Table 7 provides the means and standard deviations of the motivating factors for goal setting in order of importance (i.e., 1 = most important to 8 = least important). The mean rankings show that male qualifiers (M=1.91, SD=1.19), female qualifiers (M=2.48, SD=1.84), male non-qualifiers (M=2.11, SD=1.67), and female non-qualifiers (M=2.36, SD=2.00) set goals motivated by "improving performance". Overall, the rankings were similar among the groups. A close inspection of the means revealed that female non-qualifiers ranked "winning" (M=5.28, SD=2.47) as fifth, whereas with male non-qualifiers (M=3.89, SD=2.32), male qualifiers (M=3.38, SD=2.34), and female qualifiers (M=4.39, SD=2.34) ranked "winning" second.

Preference for Goal Difficulty. The means and standard deviations of the rankings of preferred goal difficulty levels are provided in Table 8. The descriptive statistics indicated that moderately difficult goals were ranked as most preferred by all groups. The least preferred goal difficulty level was moderately easy goals.

Locus of Control Beliefs

The descriptive statistics for the swimmer's locus of control are provided in Table 9. Figure 1 displays the profiles of male and female NCAA qualifier and non-qualifier swimmers. Overall, the IPC scores for the swimmers revealed that they attribute their sport performance to internal factors (M=4.93, SD=.72) as opposed to chance (M=3.10, SD=.91) or powerful others (M=2.97, SD=.89). Most of the NCAA qualifiers (45 males and 58 females) and NCAA non-qualifiers (47 males and 43 females) viewed outcomes as the product of their own actions, predictable, or within their control. Of the 219 swimmers, 193 swimmers were internally-oriented, 7 were externally-oriented, and 19 had similar scores on the three IPC subscales.

Internally-oriented (n=193) and externally-oriented (n=7) swimmers were evaluated using two goal-setting questions related to rewards. Externally-oriented swimmers (M=7.29, SD=1.98) were more likely to prefer attractive rewards to increase their commitment to achieve their goals than did internally-oriented swimmers (M=5.58, SD=2.21). Also, externally-oriented swimmers (M=7.29, SD=1.60) were more apt to believe that rewards were effective in helping them increase their commitment to achieve their goals than were internally-oriented swimmers (M=6.29, SD=2.07).

The results of a 2 (Gender) x 2 (NCAA qualification) MANOVA revealed a significant Gender by NCAA qualification interaction, Wilks' Lambda=.961, F(3, 211)=2.857, p=.038, η^2=.04. Follow-up univariate analysis revealed that the internal factor was the only dependent variable that was significant, F(1, 213)=8.47, p=.004, η^2=.04. Specifically, male non-qualifiers (M=5.16, SD =.67) scored higher on the internal orientation than the male qualifiers (M=4.79, SD =.72), whereas the female qualifiers (M=4.97, SD =.63) scored higher on the internal scale than did the female non-qualifiers (M=4.78, SD=78).

Personality Characteristics

The descriptive statistics for the swimmer's personality characteristics are provided in Table 10. Figure 2 provides the profiles of the male and female athletes. The results of a 2 (gender) x 2 (NCAA qualification) MANOVA revealed a significant main effect for gender, Wilks' Lambda=.946, F(7, 203)=3.20, p=.003, η^2=.10. Follow-up univariate analysis revealed that achievement, compliance, deliberation, dutifulness, order, and self-discipline were the dependent variables that were significant, F(1, 209)=8.58, p=.004, η^2=.04; F(1, 209)=4.28, p=.04, η^2=.02; F(1, 209)=5.39, p=.021, η^2=.03; F(1, 209)=4.08, p=.045, η^2=.02; F(1, 209)=9.78, p=.002, η^2=.05; and F(1, 209)=11.16, p=.001, η^2=.05, respectively. The female swimmers, as compared to the male swimmers, scored higher on achievement striving, compliance, deliberation, dutifulness, order, and self-discipline.

Discussion

The primary purpose of the present study was to explore the goal-setting practices (i.e., frequency, effectiveness, commitment, effort, and preferences), locus of control beliefs (i.e., internal, powerful others, and chance), and personality characteristics (i.e., compliance and conscientiousness) of NCAA Division IA swimmers from top twenty programs. The secondary purpose was to determine whether any differences existed as a function of NCAA qualification and gender. The goal of the study was to develop a better understanding of swimmers' goal setting strategies, locus of control beliefs, and personality characteristics competing at this level.

Goal Setting Strategies and Practices

In the present study, the swimmers frequently set competition goals, overall performance goals, long-term goals to improve sport performance, physical conditioning goals, and performance goals. The swimmers' believed physical conditioning, competition, skills and technique, and long-term goals were most effective in helping develop as an athlete. Similarly, non-sport goals were thought to be most effective for improving their quality of life. All swimmers had a strong belief that a commitment to a specific goal affected their ability to successfully reach that goal. In addition, most gave greater effort for difficult goals than for easy goals. Most of the swimmers set goals motivated by improving performance. These results support previous findings related to other collegiate athletes (Burton et al., 1998; Weinberg, 1993; Weinberg et al., 1994). Also, results relating to goal difficulty were congruent with Burton and colleagues (1998) findings that collegiate athletes preferred moderate to very difficult goals and more often

had problems with setting goals that were too hard compared to those that were too easy. Specifically, moderately difficult goals were preferred most and moderately easy goals were preferred least by all groups.

Findings from the current study revealed no significant differences between NCAA qualifiers and NCAA non-qualifiers. Those athletes who consistently perform at a higher ability level use goal setting more frequently and effectively than lower ability level athletes colleagues (e.g., Burton, et al., 1998; Weinberg, 1994; Weinberg, et al., 1997). In present study all of the swimmers were competing for top twenty NCAA Division IA teams. Therefore, they could be considered top performers at the collegiate level.

In addition, no significant differences existed between male and female swimmers in the present study. The findings of the present study support research by Weinberg and colleagues (e.g., Burton, et al., 1998; Weinberg, 1994; Weinberg, et al., 1997) indicating that athletes, regardless of gender or ability level, not only select moderately difficult goals over easy and difficult goals but also have similar goal setting strategies related to frequency and effectiveness.

Locus of Control Beliefs

In the present study, the IPC scores for most of the swimmers revealed that they attribute their sport performance to internal factors as opposed to chance or powerful others. Most of the NCAA qualifiers and non-qualifiers viewed outcomes as the product of their own actions, predictable, or within their control. Male non-qualifiers, scored slightly higher on the internal orientations than did male qualifiers whereas female

qualifiers scored slightly higher on the internal orientation than did female non-qualifiers. All of the athletes in the present study might be considered top athletes since they competed for top twenty programs. The finding that most of the athletes competing at this level were internally-oriented supports other research indicating that internally-oriented persons will usually perform better than externally-oriented individuals (see Von Bergen, 1995). Locke and Latham (1985) found that athletes only exert so much effort when being pushed by external motivators. Athletes reduce their effort and persistence when they feel a lack of control over their own performance (Locke & Latham, 1985). As Weinberg (1994) indicated, the athletes who have more control over their goals consistently perform more effectively. Therefore, it could be interpreted that the internal drive to succeed and perform is one of the factors that helps athletes persist when pursuing difficult goals.

Personality Characteristics

In the present study, the results from the NEO PI-R subscales indicated that the athletes were highly conscientious, disciplined, purposeful, and determined. The swimmers scored higher on achievement striving, compliance, deliberation, dutifulness, order, and self-discipline than the general population (McCrae & Costa, 1991). People who score in this range work hard toward their goals in a deliberate manner (Costa & McCrae, 1992). McCrae and Costa (1991) found that individuals high in conscientiousness were also happier, perhaps because their diligence and organization led to the achievement of their goals. In addition, conscientiousness is most highly associated with self-esteem and internal locus of control (Costa, McCrae, & Dye, 1991).

Specifically, the conscientious individual is self-confident, purposeful, strong-willed, and determined, and probably few people become greater athletes without a reasonably high level of this trait (Costa & McCrae, 1992). In the present study the NCAA qualifiers and non-qualifiers scored similarly on the conscientiousness subscales (i.e., achievement striving, competence, deliberation, dutifulness, order, and self-discipline) and the compliance subscale. However, gender differences were found in the present study. For example, female swimmers scored slightly higher than did male swimmers on all of the above characteristics. These findings related to gender are consistent with the findings involving the general populous (Costa & McCrae, 1992).

Conclusions

Implications

In the current study, many similarities and some differences existed as a function of gender and qualifying status. Swimmers competing on NCAA Division IA top 20 programs may be very similar in personality and orientation. Certain characteristics, beliefs, and goal-setting strategies may only differ minutely. Although the difference might be minute, knowledge of what works best for a particular individual could result in greater performance success and consistency.

Coaches, athletes and sport psychology practitioners have become increasingly interested in explanations for why performance and effort vary among individuals who participate in sport. The results of the current study yielded some important information for coaches, athletes, and sport psychology consultants. Coaches that have an in-depth knowledge of their athletes' individual characteristics (e.g., goal orientation, locus of

control belief, confidence) could develop effective training regimens for each individual athlete or groups of athletes. Further, the coach could alter their coaching style to enhance athletic performance. For example, a coach may need to provide more feedback to an athlete that is externally-oriented than to an internally-oriented athletes. In addition, non-qualifiers might need to be encouraged to set goals to the same degree as qualifiers.

Sport psychology practitioners could develop goal setting programs that are consistent with the individual characteristics and needs of coaches and/or athletes. This could provide coaches and athletes with more effective performance results. The association between goal setting strategies and tapering and/or periodized training might need to be evaluated to determine what type of goals work best for that time period.

Limitations

The present study was delimited to NCAA Division IA swimmers from seven of the top twenty programs in the country. Therefore the findings should not be generalized to other sports or competitive levels. Although the study provided important information concerning top collegiate swimmers, there are certain limitations that need to be addressed. A potential limited in the present study was that the questionnaires were administered to 3 teams by a researcher and to 4 teams by the team coach. However, analyses were performed on the major dependent variables and determined that there were no significant differences between researcher and coach administration.

Some teams were mailed the questionnaires. This means that the time the questionnaires were administered and the time they were returned was up to the coach's discretion. This could have impacted how the athletes responded. Likewise, one

administration of the questionnaires during the season does not provide for a comparison over the season or from season to season. This type of survey research does not allow the athletes to provide in-depth information that goes beyond the questions asked.

Future Directions

The study represents an exploratory and largely descriptive evaluation of goal-setting practices, locus of control beliefs, and personality characteristics of NCAA Division IA swimmers from seven of the top twenty teams. As with any preliminary research, not all questions can be answered and additional questions are usually brought to the surface. Therefore, additional data is needed to develop reliable profiles of top-performing collegiate swimmers' goal setting strategies and practices, locus of control beliefs, and personality characteristics. Qualitative research is needed to supplement the quantitative data presented in the current paper. The results would be more reliable if similar findings can be shown over time. Likewise, longitudinal studies could determine how effective goal setting strategies and practices are for improving athletic success. These longitudinal studies could provide valuable information concerning changes in goal setting strategies and practices over a season or college career and may answer questions related to how tapering in swimming and goal setting influence one another. Additional research is needed to determine whether differences exist between athletes on top performing teams as compared to those performing on less successful teams. Also, additional research is needed to determine differences between top level collegiate swimmers and other top-level sport participants.

Research on goal setting strategies of athletes would be beneficial to establishing possible explanations for goal achievement. Developing a better understanding of the personality characteristics such as achievement striving and locus of control beliefs could assist athletes and coaches on how to effectively set goals to achieve success in their sport.

APPENDIX A

GOAL SETTING IN SPORT QUESTIONNAIRE

(GSISQ)

NAME _____

GOAL SETTING IN SPORT QUESTIONNIARE

DIRECTIONS: This questionnaire is designed to help us better understand goal setting in sport. Some athletes use goal setting frequently and effectively to help improve their sport performance. Other athletes seldom, if ever, set goals and/ or find goals only minimally beneficial for improving their performance. Unfortunately, little is currently known about (a) how often athletes set various types of goals and (b) how effective these goals are for improving performance. Please help us to better understand goal setting in sport by responding to the series of questions below according to your personal experience with setting goals. LIMIT YOUR RESPONSES TO YOUR GOAL SETTING EXPERIENCES DURING HIGH SCHOOL AND COLLEGE. Circle the number to the right of the question that best indicates the (a) frequency or (b) effectiveness with which you have used goal setting in sport. There are no right or wrong answers. Please answer EVERY question as honestly as possible.

SECTION A: BACKGROUND INFORMATION

Gender: M F Age: _____ Year In School: Fresh Soph Jr. Sr. 5th

Current Varsity Sport _____

How Many Seasons Have You Done Some Type Of Goal Setting? _____

Years Experience In Current Sport _____ University _____

Are You A Starter Or In The Lineup To Compete Regularly? YES NO

What Percentage Of The Time Do You Play/Compete? _____

Rate your athletic ability compared to the best athletes you regularly compete against

1	2	3	4	5	6	7	8	9
Lot Lower		Somewhat Lower		About the Same		Somewhat Higher		Lot Higher

The University of North Texas Institutional Review Board has reviewed this project for the Protection of Human Subjects in Research.

SECTION B: FREQUENCY OF GOAL SETTING STRATEGY USAGE

		NOT OFTEN AT ALL				SOME TIMES				VERY OFTEN
1.	How often have you used goal setting to help improve your sport performance?	1	2	3	4	5	6	7	8	9
2.	How often have you set long-term goals (i.e., three or more months into the future) to improve your sport performance?	1	2	3	4	5	6	7	8	9
3.	How often have you set short-term goals (e.g., daily, weekly, monthly) to improve your sport performance?	1	2	3	4	5	6	7	8	9
4.	How often have you set goals for what you want to accomplish in practice?	1	2	3	4	5	6	7	8	9
5.	How often have you set goals for what you want to accomplish in competition?	1	2	3	4	5	6	7	8	9
6.	How often have you set team goals?	1	2	3	4	5	6	7	8	9
7.	How often have you set goals that focus on improving specific sport skills or techniques?	1	2	3	4	5	6	7	8	9
8.	How often have set goals that focus on improving specific sport strategies?	1	2	3	4	5	6	7	8	9
9.	How often have set goals that focus on improving your physical conditioning (e.g., speed, strength, endurance)?	1	2	3	4	5	6	7	8	9

	NOT OFTEN AT ALL				SOME TIMES				VERY OFTEN
10. How often have set goals that focus on improving specific psychological skills (e.g., confidence, concentration, mental toughness)?	1	2	3	4	5	6	7	8	9
11. How often have set goals that focus primarily on outcome (e.g., winning a competition, your won /loss record)?	1	2	3	4	5	6	7	8	9
12. How often have set goals that focus primarily on your overall performance?	1	2	3	4	5	6	7	8	9
13. How often do you set goals primarily to develop or maintain positive motivation?	1	2	3	4	5	6	7	8	9
14. How often do you set goals primarily to develop or maintain your self confidence?	1	2	3	4	5	6	7	8	9
15. How often in competition are your outcome goals (e.g., winning) more important than process or performance goals that focus on reaching personal standards of excellence?	1	2	3	4	5	6	7	8	9
16. How often do you set goals for what you want to accomplish outside of sport?	1	2	3	4	5	6	7	8	9
17. How often have you set long-term sport goals that were too easy and failed to challenge you to perform your best?	1	2	3	4	5	6	7	8	9

	NOT OFTEN AT ALL				SOME TIMES				VERY OFTEN
18. How often have you set long-term sport goals that were too difficult so that they caused you to feel worried or stressed about reaching them?	1	2	3	4	5	6	7	8	9
19. How often have you set short-term sport goals that were too easy and failed to challenge you to perform your best?	1	2	3	4	5	6	7	8	9
20. How often have you set long-term sport goals that were too difficult so that they caused you to feel worried or stressed about reaching them?	1	2	3	4	5	6	7	8	9
21. How often do you evaluate the effectiveness of the goals you set for yourself?	1	2	3	4	5	6	7	8	9
22. How often have attractive rewards increased your commitment to achieve your goals?	1	2	3	4	5	6	7	8	9
23. How often have you written down your goals?	1	2	3	4	5	6	7	8	9
24. How often have you publicly disclosed (e.g., shared or posted) your goals?	1	2	3	4	5	6	7	8	9
25. How often have you developed specific plans to help you achieve your goals?	1	2	3	4	5	6	7	8	9

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SECTION C: EFFECTIVENESS OF GOAL SETTING STRATEGIES

		NOT EFFECTIVE AT ALL								VERY EFFECTIVE
1.	How effective has goal setting been in helping you to develop as an athlete?	1	2	3	4	5	6	7	8	9
2.	How effective have your long-term goals been in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
3.	How effective have your short-term goals been in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
4.	How effective have your practice goals been in develop as an athlete?	1	2	3	4	5	6	7	8	9
5.	How effective have your competitive goals been in helping you perform well and develop as an athlete?	1	2	3	4	5	6	7	8	9
6.	How effective have your team goals been in helping improve team performance?	1	2	3	4	5	6	7	8	9
7.	How effective have your skills/techniques goals been helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
8.	How effective have your strategy goals been in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9

		NOT EFFECTIVE AT ALL								VERY EFFECTIVE
9.	How effective have your physical conditioning goals (e.g., speed, strength, endurance) been in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
10	How effective have your psychological skills goals (e.g., confidence, concentration, mental toughness) been in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
11	How effective have your outcome goals (e.g., winning, won/loss record) been in helping you perform well?	1	2	3	4	5	6	7	8	9
12	How effective have you been setting overall process or performance goals that focus on reaching personal standards of excellence?	1	2	3	4	5	6	7	8	9
13	How effective have goals been in helping you to develop or maintain positive motivation?	1	2	3	4	5	6	7	8	9
14	How effective have goals been in helping you to develop or maintain your self confidence?	1	2	3	4	5	6	7	8	9
15	How effective have your nonsport goals been in helping you to improve the quality of your life?	1	2	3	4	5	6	7	8	9
16	How effective were easy long-term sport goals in helping you to perform well?	1	2	3	4	5	6	7	8	9

		NOT EFFECTIVE AT ALL								VERY EFFECTIVE
17	How effective were very difficult long-term sport goals in helping you perform well?	1	2	3	4	5	6	7	8	9
18	How effective were easy short-term sport goals in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
19	How effective were very difficult short-term sport goals in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
20	How effective has evaluating goals periodically been in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
21	How effective are rewards in helping you increase your commitment to achieve your goals?	1	2	3	4	5	6	7	8	9
22	How effective has writing down your goals been in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
23	How effective has publicly disclosing your goals been in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9
24	How effective has developing a plan for how to achieve your goals been in helping you develop as an athlete?	1	2	3	4	5	6	7	8	9

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SECTION D: GOAL COMMITMENT & EFFORT

		NOT AT ALL								VERY MUCH
1	How much has your commitment to a specific goal affected your ability to successfully reach that goal?	1	2	3	4	5	6	7	8	9
2	In general, how much effort do you put forth when you are able to achieve your goals very easily?	1	2	3	4	5	6	7	8	9
3	In general, how much effort do you put forth when you have only a small chance of achieving your goal even if you perform your best?	1	2	3	4	5	6	7	8	9

SECTION E: GOAL SETTING PREFERENCES & OPTIONS

1. How would you prioritize the following types of goals in terms of their importance to you? (Rank from 1=most important to 8=least important)

_____ (a) winning
_____ (b) improving overall performance
_____ (c) improving skills and techniques
_____ (d) improving sport strategies
_____ (e) improving conditioning
_____ (f) improving psychological skills
_____ (g) social/affiliation
_____ (f) fun/enjoyment

2. How would you prioritize your preferred level of difficulty for the goals you set? (Rank from 1=most preferred to 5=least preferred)

_____ (a) easy goals that require minimal effort to achieve
_____ (b) moderately easy goals that are slightly below the level that you think you can perform at.
_____ (c) moderate goals that are equal to the level at which you think you can perform with your best effort.
_____ (d) moderately difficult goals that are somewhat above the level at which you think you can perform.

_____ (e) very difficult goals that are substantially above the level at which you think you can perform.

3. List two examples of current long-term goals and two examples of current short-term goals.

_____
_____
_____
_____
_____

4. When setting performance goals (i.e., goals for improving your own performance), how do you decide how difficult to make your goals?

_____
_____
_____
_____
_____

5. How do you feel when you fail to achieve a goal? How do you respond to these feelings?

_____
_____
_____
_____
_____

APPENDIX B

INTERNAL, POWERFUL OTHERS, AND CHANCE SCALE

(IPC)

Subject Code: _____

Levenson IPC Scale

DIRECTIONS: Below is a series of attitude statements. You will probably disagree with some items and agree with others. We are interested in the extent to which you agree or disagree with such matters of opinion. Read each statement carefully. Then indicate the extent you agree or disagree by circling the preceding each question. If you find the numbers to be used in answering do not adequately indicate your own opinion; use the one that is closest to the way you feel. There are no right or wrong answers since you are responding according to your opinion. The numbers and their meaning are indicated below:

Strongly Disagree	Somewhat Disagree	Slightly Disagree	Neutral	Slightly Agree	Somewhat Agree	Strongly Agree
1	2	3	4	5	6	7

	Strongly Disagree			Neutral			Strongly Agree
1. Whether or not I get to be a leader depends mostly on my ability.	1	2	3	4	5	6	7
2. To a great extent my life is controlled by accidental happenings.	1	2	3	4	5	6	7
3. People like myself feel that the people in power mostly determine what will happen in the lives of people like me.	1	2	3	4	5	6	7
4. Whether or not I get into a car accident depends mostly on how good a driver I am.	1	2	3	4	5	6	7
5. When I make plans, I am almost certain to make them work.	1	2	3	4	5	6	7
6. Often there is no chance of protecting personal interests from bad luck happenings.	1	2	3	4	5	6	7
7. When I get what I want, it is usually because I am lucky.	1	2	3	4	5	6	7

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	Strongly Disagree			Neutral			Strongly Agree
8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.	1	2	3	4	5	6	7
9. How many friends I have depends on how nice a person I am.	1	2	3	4	5	6	7
10. I have often found that what is going to happen will happen.	1	2	3	4	5	6	7
11. My life is chiefly controlled by powerful others.	1	2	3	4	5	6	7
12. Whether or not I get into a car accident is mostly a matter of luck.	1	2	3	4	5	6	7
13. Persons like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.	1	2	3	4	5	6	7
14. It is not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.	1	2	3	4	5	6	7
15. Getting what I want requires pleasing those people above me.	1	2	3	4	5	6	7
16. Whether or not I get to be a leader depends on whether I am lucky enough to be in the right place at the right time.	1	2	3	4	5	6	7
17. If important people were to decide they did not like me, I probably would not make many friends.	1	2	3	4	5	6	7
18. I can pretty much determine what will happen in my life.	1	2	3	4	5	6	7
19. I am usually able to protect my personal interests.	1	2	3	4	5	6	7
20. Whether or not I get into a car accident depends mostly on the other driver.	1	2	3	4	5	6	7
21. When I get what I want, It's usually because I worked hard for it.	1	2	3	4	5	6	7
22. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.	1	2	3	4	5	6	7

	Strongly Disagree			Neutral			Strongly Agree
23. My life is determined by my own actions.	1	2	3	4	5	6	7
24. It's chiefly a matter of fate whether or not I have a few friends or many friends.	1	2	3	4	5	6	7

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APPENDIX C

NEO PERSONALITY INVENTORY REVISED (NEO-PI-R) - SUBSCALES

Subject ID #: _____

The NEO-"Big Five" Sub Scales

DIRECTIONS: Circle the number to the right of the statement that indicates the level the trait describes you. There is no right or wrong answer. Please indicate, as honest as possible, a response for every statement. The number (1) or NA stands for Not at all, numbers (2) through (4) are levels of ST (some times), and number (5) or AT stands for All the time.

	NA		ST		AT
1. I would rather cooperate with others than compete with them.	1	2	3	4	5
2. I am known for my prudence and common sense.	1	2	3	4	5
3. I would rather keep my options open than plan everything in advance.	1	2	3	4	5
4. I try to perform all the tasks assigned to me conscientiously.	1	2	3	4	5
5. I am easy going and lackadaisical.	1	2	3	4	5
6. I am pretty good about pacing myself so as to get things done on time.	1	2	3	4	5
7. Over the years I have done some pretty stupid things.	1	2	3	4	5
8. I can be sarcastic and cutting when I need to be.	1	2	3	4	5
9. I do not take civic duties like voting very seriously.	1	2	3	4	5
10. I keep my belongings neat and clean.	1	2	3	4	5
11. Sometimes I am not as dependable or reliable as I should be.	1	2	3	4	5
12. I have a clear set of goals and work toward them in an orderly fashion.	1	2	3	4	5
13. I waste a lot of time before settling down to work.	1	2	3	4	5
14. I think things through before coming to a decision.	1	2	3	4	5
15. I hesitate to express my anger even when it's justified.	1	2	3	4	5
16. I keep myself informed and usually make intelligent decisions.	1	2	3	4	5
17. I am not a very methodical person.	1	2	3	4	5
18. I pay my debts promptly and in full.	1	2	3	4	5

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	NA		ST		AT
19. When I start a self-improvement program, I usually let it slide after a few days.	1	2	3	4	5
20. I am a productive person who always gets the job done.	1	2	3	4	5
21. Occasionally I act first and think later.	1	2	3	4	5
22. If I do not like people, I let them know it.	1	2	3	4	5
23. I often come into situations without being fully prepared.	1	2	3	4	5
24. I like to keep everything in its place so I know just where it is.	1	2	3	4	5
25. Sometimes I cheat when I play solitaire.	1	2	3	4	5
26. I work hard to accomplish my goals.	1	2	3	4	5
27. I have trouble making myself do what I should.	1	2	3	4	5
28. I always consider the consequences before I take action.	1	2	3	4	5
29. When I have been insulted, I just try to forgive and forget.	1	2	3	4	5
30. I pride myself on my sound judgement.	1	2	3	4	5
31. I seem to be able to get organized.	1	2	3	4	5
32. When I a make a commitment, I can always be counted on to follow through.	1	2	3	4	5
33. I do not feel like I am driven to get ahead.	1	2	3	4	5
34. Once I start a project, I almost always finish it.	1	2	3	4	5
35. I often do things on the spur of the moment.	1	2	3	4	5
36. If someone starts a fight, I am ready to fight back.	1	2	3	4	5
37. I do not seem to be completely successful at anything.	1	2	3	4	5
38. I tend to be somewhat fastidious or exacting.	1	2	3	4	5
39. I adhere strictly to my ethical principles.	1	2	3	4	5
40. I strive to achieve all I can.	1	2	3	4	5
41. When a project gets too difficult, I am inclined to start a new one.	1	2	3	4	5
42. I rarely make hasty decisions.	1	2	3	4	5
43. I am hard headed and stubborn.	1	2	3	4	5
44. I am a very competent person.	1	2	3	4	5
45. I am not compulsive about cleaning.	1	2	3	4	5

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	NA		ST		AT
46. I try to do jobs carefully, so they will not have to be done again.	1	2	3	4	5
47. I strive for excellence in everything I do.	1	2	3	4	5
48. There are so many little jobs that need to be done that I sometimes just ignore them all.	1	2	3	4	5
49. I plan ahead carefully when I go on a trip.	1	2	3	4	5
50. I often get into arguments with my family and co-workers.	1	2	3	4	5
51. I am efficient and effective at my work.	1	2	3	4	5
52. I spend a lot of time looking for things I have misplaced.	1	2	3	4	5
53. I would really have to be sick before I would miss a day of work.	1	2	3	4	5
54. I am something of a "workaholic."	1	2	3	4	5
55. I have a lot of self-discipline.	1	2	3	4	5
56. I think twice before I answer a question.	1	2	3	4	5

The University of North Texas Institutional Review Board has reviewed this project for the Protection of Human Subjects in Research.

APPENDIX D

LETTER TO COACHES

September 15, 1998

Dear Coach

Recently, I contacted you via the telephone requesting a time when I could meet with you and your team to complete questionnaires related to personality characteristics, goal setting, and attributions of control. I would like to thank you once again for your consent to have your team participate in my study. The questionnaires that will be administered are the NEO Personality Inventory, Goal Setting in Sport Questionnaire, and Internal, Powerful Others, and Chance Scale. Enclosed is a copy of the questionnaires for you to view. Participation is voluntary and will require forty-five minutes to an hour to complete. All information collected from athletes and coaches will be dealt with confidentially.

The participation of your swimmers may provide coaches, swimmers, and researchers with some valuable information on personality characteristics, goal setting, and feelings of control. The information gained about swimmers' personality characteristics, goal-setting strategies, and locus control could provide improved methods to motivate and train swimmers. For example, coaches may gain insight into what actually motivates highly trained swimmers and swimmers may better recognize what motivates them to set goals and achieve goals. Thank you again for your consideration and I look forward to meeting with you and your team. Best wishes for much success this season.

Sincerely,

Joel T. Stout

Enclosures

APPENDIX E

INSTRUCTIONS

A Look at Individual Differences in Goal Setting, Locus of Control, and Personality Characteristics of NCAA Division IA Swimmers

I would first like to thank you and your coaches for participating in my study. The study involves you responding to three questionnaires that take approximately 30 minutes to complete. The questions on these 3 questionnaires relate to (a) your personal experiences with goal setting, (b) what you attribute success and failure, and the way you typically respond in various settings. Your honest responses may help you, future college swimmers, and coaches better understand how these factors (goal setting, locus of control, and personality characteristics) influence performance. Most of the questions are answered on a Likert-scale, allowing you to rate the level at which you believe the statement relates to you. I ask that you answer the questions as truthfully as possible and that you do not think too long about your answers. You may withdraw from the study at any point during the session, and will not be judge or criticized for doing so. The information you provide will remain confidential. Swimmers will be identified by a subject number that is stamped on the packet of questionnaires. Packet numbers 100, 200, 300, 400, 500, 600, 700 (01 through 30) are to be distributed only to the men's team, while the packets numbered (30 through 60) are to be distributed to the women's team. If you have any questions during or even after the study is completed please contact me at (940-565-2651). Thanks again for your time and participation. I will be sending you a copy of the results once the study is completed.

APPENDIX F

INFORMED CONSENT SHEET

Personality Characteristics and the Association with Goal Setting and Locus of Control
Informed Consent

Purpose of Study

The purpose of this study is to determine whether there is a relationship between personality, goal setting and locus of control among NCAA Division I swimmers.

Description of Study

As a participant in this study, you are a volunteer. It is your option to terminate your participation at any time without prejudice to you. In this investigation you are asked to complete three questionnaires involving 141 questions. The approximate time for answering the questionnaires is forty-five minutes. However, you may take as long as you would like to answer the questionnaires.

Potential Risks and Discomforts

This study entails no physical risks or discomforts. No psychological discomfort is anticipated. The participants may stop at any time. The knowledge gained from this study may be beneficial to the swimmers, coaches and sport psychology consultants. The information gained about swimmers' personality characteristics, goal-setting strategies, and locus control could provide improved methods to motivate and train swimmers. For example, coaches may gain insight into what actually motivates highly trained swimmers and swimmers may better recognize what motivates them to set goals and achieve goals.

The questionnaires will be secured in a file cabinet in the major professor's office until completion of the research project. At that time the questionnaires will be destroyed. The participant will be identified on the questionnaire by pseudonym only, and every precaution will be made to ensure confidentiality of records and identifying information.

I have read the statement above and understand my role in the research and potential risks involved. In addition I am aware that:

(1) My name, questionnaire, and interview information will remain confidential.
(2) I am entitled to have any further inquires answered regarding the procedures.
(3) I may withdraw my consent and discontinue my participation at any time without penalty or prejudice toward me.

Date:_____ Signature:_____

Contact for Information:

Joel T. Stout or Scott B. Martin, Ph.D., Department of KHPR, P.O. Box 311337, University of North Texas, Denton, TX 76203-6857, (940) 565-3418

The University of North Texas Institutional Review Board has reviewed this project for the Protection of Human Subjects in Research.

APPENDIX G

TABLES

Table 1

Reliability Coefficients for GSISQ, IPC, and NEO-PI-R

Variable	Cronbach Alpha (N=219)
Goal Setting (GSISQ)	
Goal frequency	.89
Process-Related	.76
Product-Related	.81
Goal Implementation Strategy	.68
Goal effectiveness	.95
Process-Related	.86
Product-Related	.89
Goal Implementation Strategy	.80
Goal commitment	.50
Locus of Control (IPC)	
Internal	.50
Powerful others	.76
Chance	.76
Personality Characteristics (NEO-PI-R)	
Competence	.56
Order	.60
Dutifulness	.64
Achievement-striving	.70

Table 1 (continued)

Self-discipline	.79
Deliberate	.64
Total Conscientiousness	.88
Compliance	.67

Table 2

Means and Standard Deviations for Male and Female Swimmers for Goal Frequency

		Male				Female			
		NCAA Qualifier (n=55)		NCAA Non-Qualifier (n=53)		NCAA Qualifier (n=61)		NCAA Non-Qualifier (n=50)	
#	Question	M	SD	M	SD	M	SD	M	SD
1	Performance goals	6.95	2.09	6.81	1.74	7.10	1.55	6.70	1.54
2	Long-term goals	7.33	2.05	7.40	1.66	7.38	1.76	7.14	1.55
3	Short-term goals	6.33	2.29	6.13	1.78	6.84	1.88	6.50	2.00
4	Practice goals	5.37	2.12	5.71	2.13	6.36	1.82	5.80	2.20
5	Competition goals	7.77	1.63	7.84	1.24	7.89	1.29	7.48	1.09
6	Team goals	6.60	1.96	6.67	1.94	6.59	2.37	6.80	1.83
7	Skill/technique goals	6.58	1.70	6.62	1.75	6.80	1.76	6.72	1.67
8	Strategy goals	5.85	2.15	5.78	2.04	6.20	1.96	5.80	1.95
9	Physical conditioning goals	7.04	1.78	7.31	1.49	7.56	1.26	6.76	1.53
10	Psychological skills goals	5.42	2.19	5.80	1.97	6.21	2.10	5.98	1.96
11	Outcome goals	6.12	2.09	6.47	1.65	6.72	1.80	5.90	2.03
12	Overall performance goals	7.29	1.54	7.47	1.34	7.52	1.19	7.30	1.37
13	Positive motivation	5.87	2.07	6.16	1.87	6.84	1.75	6.46	2.14

Table 2 (continued)

14	Self-confidence	5.63	2.18	6.00	1.97	5.84	1.94	5.84	1.88
15	Outcome goals	5.63	1.99	5.78	1.82	5.87	1.83	5.02	2.22
16	Goals out side of sport	6.08	1.77	6.11	1.99	6.39	1.75	6.86	1.76
17	Easy long-term goals	3.65	2.00	3.60	1.79	3.52	1.89	3.40	1.71
18	Difficult long-term goals	4.75	2.12	5.57	2.32	5.70	2.17	5.84	1.67
19	Easy short-term goals	3.71	1.92	3.87	1.78	3.67	1.89	3.42	1.74
20	Setting difficult short-term goals	3.85	1.93	5.30	2.17	5.03	2.18	5.24	2.17
21	Evaluating goals	5.05	2.30	5.19	2.10	5.02	2.00	5.12	2.03
22	Rewards	5.45	2.01	5.26	2.47	6.08	2.16	5.62	2.11
23	Writing goals down	5.38	2.53	5.55	2.31	5.82	2.53	5.82	2.42
24	Publicly disclosing goals	4.40	2.46	5.30	2.19	4.36	2.37	4.70	2.28
25	Developing plan	5.51	2.28	5.87	1.86	5.85	2.10	5.82	1.92

Table 3

Mean and Standard Deviations for the Goal Frequency Subscales

	Male				Female			
	NCAA Qualifier (n=55)		NCAA Non-Qualifier (n=53)		NCAA Qualifier (n=61)		NCAA Non-Qualifier (n=50)	
Subscale	M	SD	M	SD	M	SD	M	SD
Process-Related	6.02	1.35	6.33	1.08	6.60	0.96	6.34	1.20
Product-Related	6.17	1.36	6.36	1.14	6.66	1.25	6.30	1.11
Goal Implementation	5.03	1.76	5.41	1.50	5.26	1.64	5.37	1.53

Table 4

Means and Standard Deviations for Male and Female Swimmers for Goal Effectiveness

		Male				Female			
		NCAA Qualifier (n=55)		NCAA Non-Qualifier (n=53)		NCAA Qualifier (n=61)		NCAA Non-Qualifier (n=50)	
#	Question	M	SD	M	SD	M	SD	M	SD
1	Performance goals	6.75	1.86	6.28	1.84	6.66	1.74	6.34	1.81
2	Long-term goals	7.00	1.93	6.45	1.91	6.93	1.70	6.48	1.81
3	Short-term goals	6.51	1.88	6.32	1.84	6.70	1.76	6.68	1.86
4	Practice goals	6.09	1.98	6.30	1.69	6.56	1.77	6.40	2.04
5	Competition goals	6.85	1.95	6.81	1.14	7.18	1.30	6.54	1.69
6	Team goals	5.87	2.05	6.21	1.76	6.54	1.70	6.28	1.99
7	Skill/technique goals	6.64	2.01	6.70	1.26	7.00	1.52	6.64	1.83
8	Strategy goals	5.75	2.14	5.81	1.64	6.57	1.67	6.14	1.98
9	Physical conditioning goals	7.02	1.86	7.13	1.35	7.30	1.37	6.98	1.79
10	Psychological skills goals	6.33	2.11	6.38	2.20	6.80	1.85	6.34	2.07
11	Outcome goals	6.02	2.03	6.38	1.69	6.36	2.07	5.48	2.11
12	Process goals	6.33	1.92	6.28	1.78	6.51	1.75	6.54	1.72
13	Positive motivation	6.52	1.92	6.55	1.97	6.69	1.84	6.58	1.84
14	Self-confidence	6.07	2.20	6.30	1.88	6.28	1.96	6.16	2.06
15	Non-sport goals	6.24	1.95	6.40	1.91	6.84	1.72	7.04	1.80

Table 4 (continued)

16	Easy long-term goals	4.74	1.89	5.28	2.01	5.49	2.20	4.98	2.18
17	Difficult long-term goals	6.50	1.87	6.30	1.87	6.02	2.02	5.60	2.13
18	Easy short-term goals	4.71	1.81	5.19	1.83	5.52	2.01	5.04	2.00
19	Difficult short-term goals	6.24	1.96	5.92	1.65	6.07	1.99	5.26	2.12
20	Evaluating goals	6.24	1.97	6.08	1.84	6.07	1.97	6.42	1.90
21	Rewards	6.11	2.09	6.09	2.21	6.66	1.91	6.04	2.07
22	Writing goals down	5.45	2.40	5.89	2.37	5.82	2.50	6.00	2.12
23	Publicly disclosing goals	4.64	2.34	5.21	2.73	4.39	2.27	4.74	2.28
24	Developing plan	6.15	2.21	6.04	2.15	6.59	1.78	6.44	2.05

Table 5

Mean and Standard Deviations for the Goal Effectiveness Subscales

	Male				Female			
	NCAA Qualifier (n=55)		NCAA Non-Qualifier (n=53)		NCAA Qualifier (n=61)		NCAA Non-Qualifier (n=50)	
Subscale	M	SD	M	SD	M	SD	M	SD
Process-Related	6.09	1.41	6.14	1.17	6.33	1.37	5.91	1.40
Product-Related	6.25	1.57	6.33	1.28	6.63	1.41	6.23	1.46
Goal Implementation	5.63	1.75	5.80	1.83	5.71	1.71	5.90	1.70

Table 6

Means and Standard Deviations for Male and Female Swimmers for Goal Commitment and Effort

		Male				Female			
		NCAA Qualifier (n=55)		NCAA Non-Qualifier (n=53)		NCAA Qualifier (n=61)		NCAA Non-Qualifier (n=50)	
#	Question	M	SD	M	SD	M	SD	M	SD
1	Commitment to a specific goal	7.15	1.76	6.70	1.74	7.05	1.85	7.14	1.77
2	Effort for easy goals	5.85	1.99	5.96	1.81	6.15	1.95	5.46	2.34
3	Effort for difficult goals	6.93	2.26	7.32	1.72	7.23	1.78	6.54	2.05

Note. Rankings are based upon male NCAA qualifiers.

Table 7

Means and Standard Deviations for Male and Female Swimmers on Motivating Factors

		Male				Female			
		NCAA Qualifier (n=55)		NCAA Non-Qualifier (n=53)		NCAA Qualifier (n=61)		NCAA Non-Qualifier (n=50)	
Rank	Question	M	SD	M	SD	M	SD	M	SD
1	Improving Performance	1.91	1.19	2.11	1.67	2.48	1.84	2.36	2.00
2	Winning	3.38	2.34	3.89	2.32	4.39	2.34	5.28	2.47
3	Improving Skills & Techniques	4.13	1.63	4.23	1.80	4.59	1.78	4.20	1.53
4	Improving Conditioning	4.60	1.52	4.72	1.66	4.62	1.64	4.52	1.94
5	Improving Psychological Skills	5.60	1.58	5.15	2.01	4.89	2.11	4.80	2.12
6	Improving Sport Strategies	6.00	1.69	6.02	1.65	5.95	1.97	5.60	1.99
7	Social/Affiliation	6.53	1.78	6.19	2.07	6.16	1.66	6.24	1.48

Note. Rankings are based upon male NCAA qualifiers.

Table 8

Means and Standard Deviations for Male and Female Swimmers for Goal Difficulty

		Male				Female			
		NCAA Qualifier (n=55)		NCAA Non-Qualifier (n=53)		NCAA Qualifier (n=61)		NCAA Non-Qualifier (n=50)	
Rank	Question	M	SD	M	SD	M	SD	M	SD
1	Moderately difficult	1.95	1.11	1.60	.91	1.49	.91	1.60	.97
2	Moderate	2.33	.98	2.26	.81	2.30	.67	2.26	.85
3	Very difficult	2.78	1.45	2.94	1.46	3.11	1.40	3.14	1.29
4	Moderately easy	3.53	.88	3.57	.75	3.51	.72	3.52	.76

Note. Rankings are based upon male NCAA qualifiers.

Table 9

Means and Standard Deviations for Male and Female Swimmers on the Internal, Powerful Others, Chance

		Male				Female			
		NCAA Qualifier (n=51)		NCAA Non-Qualifier (n=52)		NCAA Qualifier (n=61)		NCAA Non-Qualifier (n=49)	
Rank	Question	M	SD	M	SD	M	SD	M	SD
1	Internal	4.79	.73	5.16	.68	4.97	.63	4.78	.78
2	Powerful Others	3.01	.99	3.09	1.00	2.84	.79	2.97	.77
3	Chance	3.19	1.01	3.16	1.06	3.01	.72	3.06	.85

Table 10

Mean and Standard Deviations for Male and Female Swimmers on the Subscales of the NEO-PI-R

		Male				Female			
		NCAA Qualifier (n=51)		NCAA Non-Qualifier (n=52)		NCAA Qualifier (n=61)		NCAA Non-Qualifier (n=49)	
Rank	Question	M	SD	M	SD	M	SD	M	SD
1	Competence	3.50	.45	3.62	.46	3.65	.46	3.54	.49
2	Dutifulness	3.50	.54	3.70	.53	3.72	.47	3.79	.59
3	Achievement	3.38	.58	3.47	.55	3.69	.53	3.62	.55
4	Self-discipline	3.32	.61	3.33	.58	3.69	.67	3.54	.62
5	Order	3.10	.50	3.05	.66	3.34	.58	3.31	.46
6	Deliberate	2.92	.54	3.08	.53	3.16	.49	3.19	.54
7	Comply	2.79	.56	2.74	.69	2.92	.60	2.96	.53

Note. Rankings are based upon male NCAA qualifiers.

APPENDIX H

FIGURES

Figure 1

Scores for Male and Female Qualifiers and Non-Qualifiers on the IPC

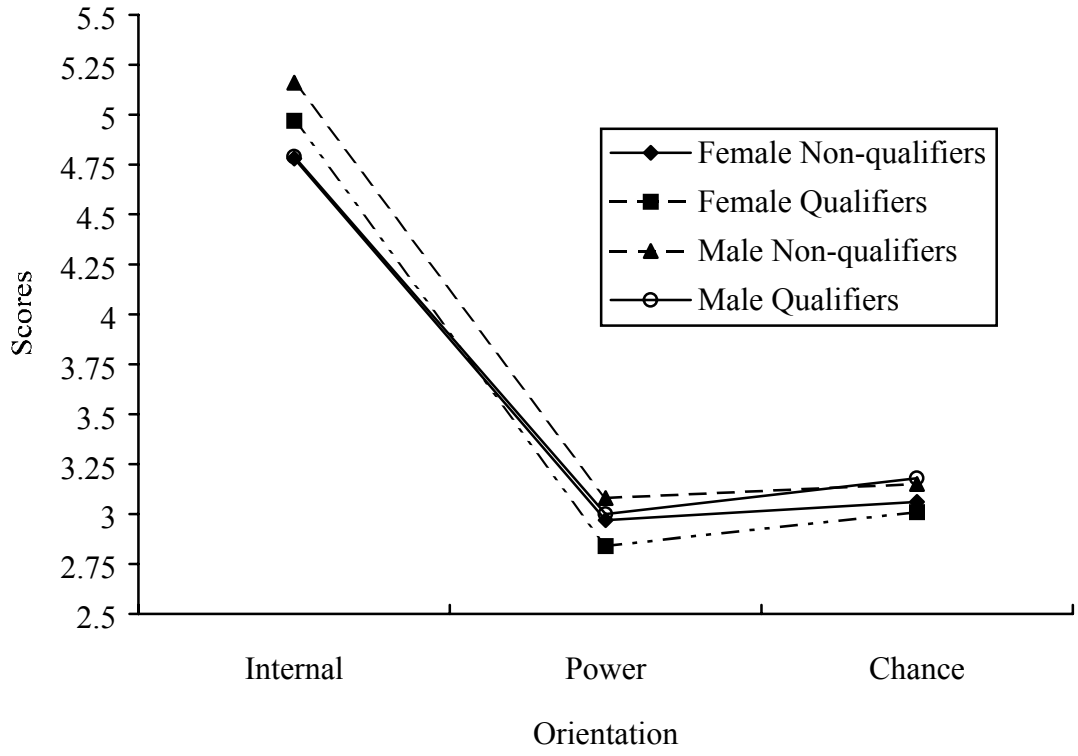
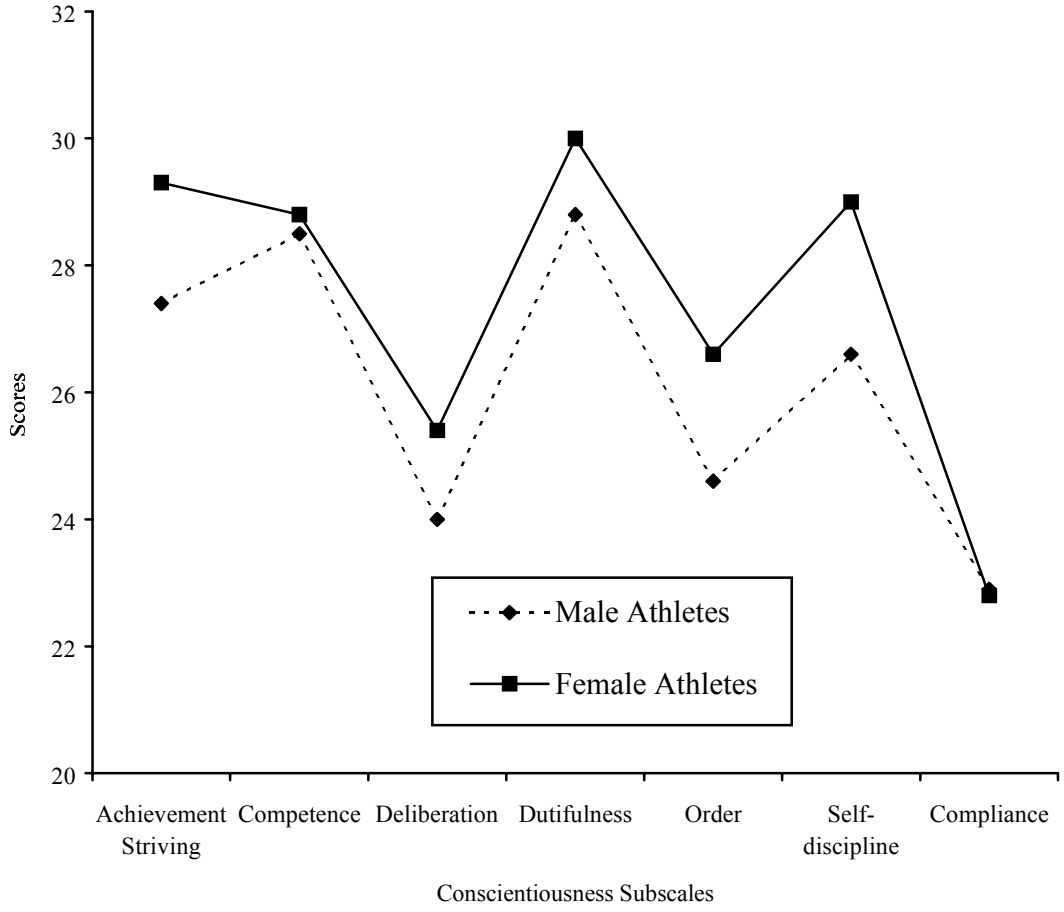


Figure 2

Scores for Male and Female Swimmers on the NEO-PI-R Subscales



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